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SEQUENCE LISTING

<110> Keio University

<120> HUMANIN, A POLYPEPTIDE SUPPRESSING NEURONAL DEATH

<130> KUV-102DP1PCT1

<140>

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<150> JP 1999-264679

<151> 1999-09-17

<150> JP 2000-201456

<151> 2000-06-29

<160> 60

<170> PatentIn Ver. 2.0

<210> 1

<211> 85

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 1

aattcaccaat ggctccacga gggttcagct gtctcttact tttaaccagt gaaattgacc 60
tgcccgtgaa gaggcgggca ggtac 85

<210> 2

<211> 77

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 2

ctgcccgcct cttcacgggc aggtcaattt cactgggttaa aagtaagaga cagctgaacc 60
ctcgtggagc catggtg 77

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<210> 3
<211> 79
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<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 3
ctgcccgcct cttcacgggc aggtcaattt cactgggttaa aagtaagaga cagctgaacc 60
ctcgtggagc catgtggtg 79

<210> 4
<211> 75
<212> DNA
<213> Homo sapiens

<220>
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<222> (1).. (72)

<400> 4
atg gct cca cga ggg ttc agc tgt ctc tta ctt tta acc agt gaa att 48
Met Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

gac ctg ccc gtg aag agg cgg gca tga 75
Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 5
<211> 24
<212> PRT
<213> Homo sapiens

<400> 5
Met Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 6
<211> 34
<212> PRT
<213> Artificial Sequence

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<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (sHN-FLAG)

<400> 6

Met Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala Gly Thr Asp Tyr Lys Asp Asp Asp
20 25 30

Asp Lys

<210> 7

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (HNR)

<400> 7

Met Ala Pro Arg Gly Phe Ser Cys Arg Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 8

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (HNG)

<400> 8

Met Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

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<210> 9
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence (HNA)

<400> 9
Met Ala Pro Arg Gly Phe Ser Ala Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 10
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 10
Met Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

Asp Leu Pro Val Ala Ala Ala Ala
20

<210> 11
<211> 19
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 11
gg-tgttgag cttgaacgc

19

<210> 12
<211> 23
<212> PRT

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN1-Humanin)

<400> 12

Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp
1 5 10 15Leu Pro Val Lys Arg Arg Ala
20

<210> 13

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN2-Humanin)

<400> 13

Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu
1 5 10 15Pro Val Lys Arg Arg Ala
20

<210> 14

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN3-Humanin)

<400> 14

Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu Pro
1 5 10 15Val Lys Arg Arg Ala
20

<210> 15

<211> 20

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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN4-Humanin)

<400> 15

Gly Phe Ser Cys Leu Leu Leu Thr Ser Glu Ile Asp Leu Pro Val
1 5 10 15Lys Arg Arg Ala
20

<210> 16

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN5-Humanin)

<400> 16

Phe Ser Cys Leu Leu Leu Thr Ser Glu Ile Asp Leu Pro Val Lys
1 5 10 15

Arg Arg Ala

<210> 17

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN6-Humanin)

<400> 17

Ser Cys Leu Leu Leu Thr Ser Glu Ile Asp Leu Pro Val Lys Arg
1 5 10 15

Arg Ala

<210> 18

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<211> 17
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN7-Humanin)

<400> 18

Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu Pro Val Lys Arg Arg
1 5 10 15

Ala

<210> 19
<211> 16
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN8-Humanin)

<400> 19

Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu Pro Val Lys Arg Arg Ala
1 5 10 15

<210> 20
<211> 16
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN2 deltaC6-Humanin)

<400> 20

Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu
1 5 10 15

<210> 21
<211> 17
<212> PRT
<213> Artificial Sequence

<220>

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<223> Description of Artificial Sequenc : artificially
synthesized sequence (deltaN2 deltaC5-Humanin: HN-17)

<400> 21

Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu
1 5 10 15

Pro

<210> 22

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaN2 deltaC4-Humanin)

<400> 22

Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile Asp Leu
1 5 10 15

Pro Val

<210> 23

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (deltaC4-Humanin)

<400> 23

Met Ala Pro Arg Gly Phe Ser Cys Leu Leu Leu Leu Thr Ser Glu Ile
1 5 10 15

Asp Leu Pro Val
20

<210> 24

<211> 17

<212> PRT

<213> Artificial Sequence

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<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (HNG-17)

<400> 24

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 25

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 25

Ala	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 26

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 26

Pro	Ala	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 27

<211> 17

<212> PRT

<213> Artificial Sequence

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<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 27

Pro	Arg	Ala	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 28

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synthesized sequence

<400> 28

Pro	Arg	Gly	Ala	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 29

<211> 17

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<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 29

Pro	Arg	Gly	Phe	Ala	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
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Pro

<210> 30

<211> 17

<212> PRT

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: artificially synthesized sequence

<400> 30

Pro	Arg	Gly	Phe	Ser	Ala	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 31

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially synthesized sequence

<400> 31

Pro	Arg	Gly	Phe	Ser	Cys	Ala	Leu	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 32

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially synthesized sequence

<400> 32

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Ala	Leu	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 33

<211> 17

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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 33

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Ala	Leu	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 34

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 34

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Ala	Thr	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 35

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 35

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Ala	Gly	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 36

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<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 36

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Ala	Glu	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 37

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 37

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Ala	Ile	Asp	Leu
1				5					10					15	

Pro

<210> 38

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 38

Pro	Arg	Gly	Phe	Ser	Cys	Leu	Leu	Leu	Leu	Thr	Gly	Glu	Ala	Asp	Leu
1				5					10					15	

Pro

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<210> 39
<211> 17
<212> PRT
<213> Artificial Sequence

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<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 39
Pro Arg Gly Phe Ser Cys Leu Leu Leu Thr Gly Glu Ile Ala Leu
1 5 10 15

Pro

<210> 40
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 40
Pro Arg Gly Phe Ser Cys Leu Leu Leu Thr Gly Glu Ile Asp Ala
1 5 10 15

Pro

<210> 41
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 41
Pro Arg Gly Phe Ser Cys Leu Leu Leu Thr Gly Glu Ile Asp Leu
1 5 10 15

Ala

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<210> 42
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 42
Met Ala Pro Arg Gly Phe Ser Asp Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
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<210> 43
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 43
Met Ala Pro Arg Gly Phe Ser Glu Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 44
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 44
Met Ala Pro Arg Gly Phe Ser Phe Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala

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20

<210> 45
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 45
Met Ala Pro Arg Gly Phe Ser Gly Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 46
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 46
Met Ala Pro Arg Gly Phe Ser His Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 47
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 47
Met Ala Pro Arg Gly Phe Ser Ile Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

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Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 48

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 48

Met Ala Pro Arg Gly Phe Ser Lys Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 49

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 49

Met Ala Pro Arg Gly Phe Ser Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 50

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 50

Met Ala Pro Arg Gly Phe Ser Met Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

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Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 51

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 51

Met Ala Pro Arg Gly Phe Ser Asn Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 52

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 52

Met Ala Pro Arg Gly Phe Ser Pro Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 53

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 53

Met Ala Pro Arg Gly Phe Ser Gln Leu Leu Leu Thr Gly Glu Ile

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1 5 10 15
Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 54

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 54

Met Ala Pro Arg Gly Phe Ser Arg Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 55

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 55

Met Ala Pro Arg Gly Phe Ser Ser Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 56

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 56

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Met Ala Pro Arg Gly Phe Ser Thr Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 57

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 57

Met Ala Pro Arg Gly Phe Ser Val Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 58

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

<400> 58

Met Ala Pro Arg Gly Phe Ser Trp Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 59

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence

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<400> 59

Met Ala Pro Arg Gly Phe Ser Tyr Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20

<210> 60

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificially
synthesized sequence (AGA-HN)

<400> 60

Met Ala Pro Ala Gly Ala Ser Cys Leu Leu Leu Leu Thr Gly Glu Ile
1 5 10 15

Asp Leu Pro Val Lys Arg Arg Ala
20